

7 Range-wide Recommendations

Many of the potential recovery actions to address the threats and issues discussed in Chapter 3 have application across most, if not all, of the range of coho salmon in California. These issues do not necessarily threaten or impact coho salmon everywhere or to the same degree across the range. The CRT developed the following recommendations with the exception of numbers RW-LW-07, RW-LW-08, RW-IN-18, and RW-EN-24, which were developed by the Department. In a few cases, the Department has modified recommendations that were developed by the CRT. The Timber Management Recommendations (section 7.24) are a hybrid of various alternatives crafted by a subgroup of the CRT. In February 2004, the Commission approved the Timber Management Recommendations for inclusion in this Recovery Strategy. An implementation schedule, which includes identified action entities and timelines, is provided for these recommendations in Table 9-1.

Recommendation numbers presented below were used during CRT discussions and are not sequential. They are presented here only as unique identifiers for reference to individual recommendations and to maintain a permanent record of the CRT process.

7.1 STREAMFLOW

RW-I-B-01	Encourage the use of passive diversion devices designed to allow diversion of water only when minimum flow requirements are met or exceeded. Identify and develop adequate passive diversion structure designs.
RW-I-C-01	Encourage cooperative effort to plan water supply development and growth that are not harmful to coho salmon habitat. Work in coordination with the California Department of Housing and Community Development, Association of Bay Area Governments, counties, cities, water districts, and others. Provide funding and education to accomplish this.
RW-I-D-01	Encourage elimination of unnecessary and wasteful use of water from coho salmon habitat, through education components of this strategy. Encourage water conservation for existing uses.
RW-I-D-02	Improve coordination between agencies to avoid and minimize the adverse effects of future or reopened permits and licenses for water diversions on coho salmon. Promote consistency and pool limited resources to implement a regional interagency task force for regional project review (water rights, 1600, CESA). Include staff that represent the Department, SWRCB, RWQCB, NOAA Fisheries and, where applicable, other agencies. Where feasible, use programmatic, cost-efficient approaches and incentives to working with landowners to permit off-channel storage ponds. For the CCC Coho ESU, the SWRCB shall consider the June 23, 2002 Draft Guidelines developed by NOAA Fisheries and the Department in the water rights proceedings for

	streams with coho salmon including season of diversion and off-stream storage, and maintenance of the natural hydrograph, where appropriate. Encourage NOAA Fisheries and the Department to work with SWRCB to modify the guidelines to be appropriate to the SONCC Coho ESU as needed.
RW-I-D-03	<p>Provide conservation incentives to minimize negative effects of water drafting for roads and fire suppression, including, but not limited to:</p> <ol style="list-style-type: none"> Streamline permitting for actions that result in an improvement of instream flows; Support multiple uses of water storage systems (e.g., USFS, CDF, counties, landowners); and Cost-share funding where low-flow, trickle recharge water storage is used to avoid adversely affecting streamflow or coho salmon habitat.
RW-I-D-04	Evaluate the rate and volume of water drafting for dust control in streams or tributaries and where appropriate, minimize water withdrawals that could impact coho salmon. When feasible, use alternatives to water as a dust palliative (including EPA-certified compounds) that are consistent with maintaining or improving water quality.
RW-I-D-05	Explore ways to improve implementation of the Department's Lake or Stream Alteration Notification and Agreement process to protect coho salmon from the adverse affects of projects that would alter the bed, banks, channel, or natural flow streams.
RW-I-D-06	Pursue funding for the assessment, cataloging, and compliance monitoring of water diversions within the range of coho salmon. Upgrade the existing water rights information system so that water allocations can be readily quantified by watershed.
RW-I-D-08	Support a comprehensive streamflow evaluation program to determine in-stream flow needs for coho salmon in priority watersheds.

7.2 WATER RIGHTS

RW-II-A-01	Review authorized diversions that have no provisions to protect coho salmon. Review should be conducted in order of priority for streams with coho salmon habitat.
RW-II-A-02	Identify unauthorized diversions.
RW-II-A-04	Where flows are a limiting factor in priority coho salmon habitat, petition the SWRCB to add streams to the Declaration of Fully Appropriated Streams.
RW-II-A-05	Inventory water use and water availability in streams with coho salmon habitat. Ensure that water availability analyses on priority coho salmon habitat accurately reflect existing water use and availability. Require streamflow gauging devices on priority coho salmon streams when approving water development projects. Continue to require riparian and pre-1914 water users to file annual statements of diversion and use.

RW-II-B-01	Pursue opportunities to acquire or lease water, or acquire water rights from willing sellers for coho salmon recovery purposes. Develop incentives for water right holders to dedicate instream flows for the protection of coho salmon (Water Code §1707).
RW-II-B-02	Evaluate the cumulative effects to coho salmon from the creation of new riparian water rights associated with land subdivisions and rezonings. Where cumulative impacts on flows will be detrimental to coho salmon, consider mitigations or conditions that would protect coho salmon or avoid adverse effects to coho salmon. Conditions could include requirements that would not allow riparian water rights for new parcels at the time subdivision approvals are made.
RW-II-B-03	Within the range and distribution of coho salmon, diversion screens should be constructed, repaired, upgraded, reconstructed, and maintained in accordance with Department/NOAA Fisheries Screening Criteria.

7.3 FISH PASSAGE

RW-III-A-01	Continue and complete assessments and prioritizations for correction of fish passage barriers.
RW-III-A-02	Develop and maintain a database of barriers to fish passage.
RW-III-C-01	Encourage funding authorities to allocate adequate resources to construct new crossings and upgrade existing crossings (bridges, culvert and fills, other crossings) within the range of coho salmon to accommodate 100-year flows and associated bedload and debris. Priority for upgrading should be based upon the potential impact to coho salmon habitat.
RW-III-C-02	Evaluate NOAA Fisheries standards for passage at summer dams, and if necessary, develop additional policies and guidelines for passage at summer dams. Implement appropriate recommendations resulting from this process.
RW-III-C-04	Encourage the Federal Emergency Management Agency (FEMA) to fund upgrades to flood-damaged facilities to meet the requirements of the ESA.
RW-III-C-06	Encourage funding authorities to allocate adequate budgets to Federal, State, and local agencies for fish passage projects. This includes, but is not limited to, funding for road maintenance programs and capital project activities.

7.4 POLLUTANTS

RW-V-B-01	Improve water quality by reducing or minimizing point and non-point sources of nutrient input (i.e. sewage treatment plant discharge, septic system discharge, storm drain runoff, and agricultural runoff). Support efforts by cities and rural communities to complete system upgrades to achieve CWA compliance.
RW-V-E-01	Continue outreach, education, and enforcement related to hazardous materials spills, illegal dumping, and household hazardous waste and hazardous materials spills in creeks. Provide education on the CalTIP program.

RW-V-E-03	Continue to fund and support the CalTIP program. Provide additional training for Wardens to identify water pollution problems and promote coordination with other responsible agencies. Coordinate water rights training for resource agency personnel.
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7.5 SEDIMENTS

RW-VI-A-02	Identify and prioritize specific sediment source locations for treatment that may deliver sediment to coho salmon streams. Encourage the use of protocols, such as the California Stream Habitat Restoration Manual Guidelines. Work with others to educate and provide technical assistance to landowners to implement upgrades.
RW-VI-B-01	Encourage agencies and landowners to restore natural drainage patterns and minimize hydrologic connectivity of roads, where feasible. Encourage funding agencies to provide annual funding for implementation of the program.
RW-VI-B-02	Continue to fund and provide technical support to local government and private landowner actions to reduce identified sediment input from upslope sources. Basin-wide assessments should prioritize remediation activities, which would include slope stabilization and minimizing sediment production.
RW-VI-D-01	Encourage Federal, State, and county agencies and private landowners to reduce impacts to coho salmon habitat from public and private road systems. Continue road and/or watershed assessments to identify and prioritize sources and risks of road-related sediment delivery to watercourses. Support activities to: <ul style="list-style-type: none"> a. Reduce road densities where necessary and appropriate; b. Upgrade roads and road-maintenance practices to eliminate or reduce the potential for concentrating run-off to streams during rainfall events. Employ best available technology when appropriate; c. Encourage measures to reduce sediment delivery from unpaved roads; d. Decrease potential for streamflow to become diverted at road crossings during high flow events, resulting in flow along the road that returns to the channel at undesirable locations; e. Stabilize slopes to minimize or prevent erosion and to minimize future risk of eroded material entering streams; f. Minimize alteration of natural hill slope drainage patterns; and g. Encourage funding authorities to allocate adequate budgets to Federal, State, and local agencies and private landowners for road maintenance activities, capital project activities, and dedicated funding to pay for fish passage projects.

7.6 WATER TEMPERATURE

RW-X-B-01	Identify and implement actions to maintain and restore water temperatures to meet habitat requirements for coho salmon in specific streams.
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RW-X-B-02	Offer funding and permit incentives to restore stream habitat where lack of LWD, riparian cover, simplified stream morphology and other conditions have been determined to be limiting factors to coho salmon habitat.
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7.7 LARGE WOODY DEBRIS

RW-XII-B-01a	Identify those riparian vegetation communities that provide good opportunities for conifer LWD recruitment to coho salmon habitat. Communicate the importance of these riparian communities to appropriate agencies, restoration funding groups, and landowners, and work to maintain them in a healthy condition. Address and identify possible solutions to potential conflicts between flood management activities and maintenance of riparian vegetation and large woody debris.
RW-XII-B-01b	Prioritize riparian vegetation communities for the purposes of restoring conifer LWD recruitment.
RW-XII-B-02	Funding authorities should provide funding and technical support for riparian restoration.
RW-LW-07	Encourage management practices that promote conifer recruitment to provide short-term and long-term restoration of LWD and stream shade.
RW-LW-08	Encourage Federal, State, and county agencies and private landowners to protect instream LWD to the greatest extent practicable without endangering public safety, life or property.

7.8 STREAM COMPLEXITY

RW-XIII-C-01	Modify channel or flood control maintenance manuals for consistency with habitat requirements and protection for coho salmon.
RW-XIII-C-02	Where appropriate and feasible, work with all parties, including landowners, to reconfigure levees and channelized streams to benefit coho salmon.

7.9 REFUGIA

RW-XV-A-01	Identify key coho salmon refugia and inform land managers and other agencies of their locations and characteristics.
RW-XV-A-02	Identify core coho salmon populations, inform land managers and other agencies of their locations, and implement measures to maintain those populations.
RW-XV-B-01	Maintain or re-establish geographic distribution of coho salmon by continuing to allocate substantial improvement efforts towards identified key refugia with substantial coho salmon populations and/or otherwise suitable conditions.

7.10 HABITAT FRAGMENTATION

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| RW-XVI-B-01 | Restore habitat connectivity between coho salmon populations in coastal and low-gradient inland streams to promote the long-term viability of coho salmon. |
| RW-XVI-B-02 | Reduce habitat fragmentation by restoring fish passage between high quality habitat channels to allow for gene flow between breeding populations within targeted coho salmon watersheds. |

7.11 COMPETITION

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| RW-XVIII-A-01 | Develop a rapid-response eradication plan that can be implemented when invasive non-native species that negatively affect coho salmon are newly detected. |
| RW-XVIII-A-02 | Develop management guidelines to mitigate the impacts of non-native fish species on coho salmon. |
| RW-XVIII-A-03 | Encourage removal of non-native fish species from stock ponds where these fish pose a threat to coho salmon. |

7.12 HATCHERY OPERATIONS, GENETICS, AND RELOCATION

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| RW-XX-B-01 | Promote recovery actions that maintain the local genetic diversity of coho salmon populations to maximize fitness and long-term viability of coho salmon populations. |
| RW-III-C-03 | Evaluate the desirability and feasibility of relocating stranded juvenile coho salmon to nearby underutilized high quality habitat. Develop a policy addressing this issue, and implement recommendations arising from the evaluation. |
| RW-XXI-A-01 | Adopt draft policy for recovery hatcheries (Appendix G). |
| RW-XXI-A-02 | Adopt draft guidelines for recovery hatcheries (Appendix H). |

7.13 RIPARIAN VEGETATION

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| RW-XXII-A-02 | Where necessary, provide riparian protection from livestock while providing off-stream watering. |
| RW-XXII-A-04 | Encourage restoration of LWD and shade by improvement of existing riparian zones through planting, release of conifers or other appropriate native species, and control of blackberries and other competitors. The Department and others should provide incentives to landowners, such as technical support. |
| RW-XXII-A-05 | Inventory and evaluate on a site-specific basis the adequacy of stream buffer zones and riparian and wetland habitat on public and private lands. This review should be coordinated between all agencies with regulatory jurisdiction. |
| RW-XXII-A-06 | Develop and implement initiatives, including funding where appropriate, to improve stream buffers that have been determined to be inadequate. |

7.14 ESTUARIES

- RW-XXIII-E-01 Restore estuarine habitat and the associated wetlands and sloughs by providing fully functioning habitat. Fully functioning habitat includes:
- Restoration of historic estuarine areas to maximize available estuarine habitats and tidal prisms;
 - Free passage for adult and juvenile coho salmon to all estuarine areas;
 - Adequate instream structure (cover and complexity);
 - Adequate riparian habitat;
 - Eradication of invasive exotic flora and fauna;
 - Protection of habitat quality by providing suitable water quality and quantity input to estuaries;
 - Protection and restoration of coho salmon prey habitat; and
 - Minimizing artificial breaching and associated potential negative impacts.

7.15 LAND USE

- RW-XXV-A-01 Continue providing subvention funds to counties for Williamson Act contracts to help preserve a rural landscape for more effective recovery of coho salmon.
- RW-XXV-B-03 Where necessary, revise General Plans, Local Coastal Plans, and/or Community Development Plans to direct development away from riparian habitats on coho salmon streams or tributaries. Establish incentives and standards to protect riparian and wetland areas on private lands, based on flexible subdivision design and other cooperative land development mechanisms.
- RW-XXV-B-04 Encourage continued economically sustainable management of forest and agricultural lands in the range of coho salmon to reduce the potential for conversion to residential or commercial development.
- RW-XXV-B-05 Evaluate range-wide the adequacy of riparian buffers and development setbacks where needed for protecting riparian and wetland habitat on county, city, and private lands adjacent to coho salmon streams.
- RW-XXV-B-07 Develop and implement county, city, and landowner initiatives to expand inadequate stream buffers and protect riparian and wetland habitat for coho salmon recovery.
- RW-XXV-C-01 Acquire conservation easements or land in fee title from willing landowners to protect coho salmon habitat.

7.16 PUBLIC OUTREACH

- RW-XXVIII-A-01 Develop and provide informative programs for Registered Professional Foresters, Licensed Timber Operators, and other natural resource professionals regarding coho salmon and their habitat.
- RW-XXVIII-A-03 The Department and the Commission should set up a periodic recognition program for watershed groups and stakeholders that are helping to implement the coho salmon recovery strategy.
- RW-XXVIII-B-01 Support local governments, interested parties, and property owners in the development of incentives for landowners who participate in activities that exceed legal requirements or timelines to protect and/or restore coho salmon habitat and watershed processes.
- RW-XXVIII-B-03 Encourage local governments to incorporate protection of coho salmon in flood management activities consistent with Department, RWQCB, NOAA Fisheries, and USACE requirements.
- RW-XXVIII-B-04 Provide information to staff of counties and incorporated areas about the importance and requirements to develop and implement performance standards in Stormwater Management Plans.
- RW-XXXIII-A-23 Provide educational materials, outreach and training for issues such as sport fishing (inadvertent incidental take), poaching (direct take) and habitat destruction (LWD removal, riparian destruction, illegal stream crossings, pollution, illegal water withdrawal, etc.).
- RW-XXVIII-C-01 Educate and train restoration specialists and watershed restoration groups on the coho salmon recovery strategy.

7.17 INTEGRATION WITH OTHER PLANS AND PROGRAMS

- RW-XXX-A-01 The California Board of Forestry should continue to support the Threatened and Impaired Watersheds Rules.
- RW-XXX-A-02 Recommend that CDF amend FPRs to require that Registered Professional Foresters certify in timber harvesting plans that they have followed the California Licensed Foresters Association Guide to Determining the Need for Input from a Licensed Geologist during THP Preparation.
- RW-XXX-A-03 Recommend that CDF use statistical analysis of land failure and sediment yield to strengthen protection in geologically unstable areas.
- RW-XXX-A-04 Conduct implementation and effectiveness monitoring for Nonindustrial Timber Management Plans.
- RW-XXX-B-01 As feasible, prepare and implement TMDL plans on a schedule that gives priority to key coho salmon watersheds.
- RW-XXX-B-02 Request that RWQCBs' TMDL process quantify and allocate increased sediment loads that might result from restoration activities.
- RW-XXX-B-05 Ensure that TMDL standards provide protection for coho salmon.

RW-XXX-B-06	Conduct outreach to State agencies and local governments to encourage their participation in the TMDL process to ensure the standards provide protection of coho salmon.
RW-XXX-D-01	Implement Fire Safe Councils' recommendations promoting the reduction of fuel near residences, while addressing impacts to other listed species, to reduce human-caused fires spreading into the forest and causing harm to coho salmon habitat.
RW-XXX-D-03	Encourage agencies and stakeholders to work together on a long-term basis to develop a process to incorporate coho salmon recovery considerations in fire reduction and fuel management strategies.
RW-XXX-D-04	Establish fire regimes to promote watershed function and health and to reduce the risk and impact of extensive, high severity fire on coho salmon and habitat.
RW-XXX-D-05	Identify areas within coho salmon range that are susceptible to extensive, high severity fires.
RW-XXX-D-06	Identify State of perturbation (=disturbance regime) in watersheds within coho salmon range to determine potential, deleterious shifts from ecological functioning regimes.
RW-XXX-D-07	Restore aquatic habitat structure and life history complexity of coho salmon populations in areas susceptible to extensive, high severity fires.
RW-XXX-E-01	Continue to implement FishNet 4C and Five County Salmon Restoration goals, including adopting and implementing written Operations and Maintenance Guidelines, training staff on guidelines, addressing fish passage and road sedimentation issues, developing riparian protections, promoting alternatives to conventional bank stabilization, and developing land use policies favorable for coho salmon.
RW-XXX-E-02	Incorporate the FishNet 4C and Five County adopted Roads Operations and Maintenance Guidelines within incidental take authorizations under CESA and as part of the coho salmon recovery strategy.
RW-XXX-F-01	Encourage NOAA Fisheries to work with USACE to reduce the impacts to coho salmon of USACE projects.
RW-XXX-J-01	After delisting is achieved, review the Recovery Strategy to determine how to continue implementation of appropriate elements of the Recovery Strategy, pursuant to and consistent with other applicable local, State, and Federal law and voluntary measures, to achieve restoration of Tribal, recreational, and commercial fisheries and avoid relisting of the species.
RW-IN-18	Encourage USFS implementation of the Aquatic Conservation Strategy as outlined in the Northwest Forest Plan, and specific Standards and Guidelines identified in the Land and Resource Management Plan for each National Forest in the range of California coho salmon.

7.18 PERMITTING

- RW-XXXI-A-01 Federal, State, local governments and other interested parties should cooperate to develop regulatory assurance mechanisms to encourage land managers, local governments, and landowners to implement coho salmon habitat restoration and/or enhancement projects.
- RW-XXXI-A-02 Coordinate with the SWRCB and appropriate RWCBs to implement water quality monitoring and streamline permitting of coho salmon habitat enhancement and/or restoration projects (RWQCB 401, USACE 404, NOAA Fisheries, and USFWS permitting).
- RW-XXXI-A-03 Encourage State, Federal, and local governmental agencies to work with stakeholders in identifying ways to remove regulatory barriers (e.g., permitting and environmental review) to expedite activities that will contribute to the recovery of coho salmon. Examples of ideas to consider may be:
- a. The creation of local permit assistance centers;
 - b. Seeking categorical exemptions from CEQA; and
 - c. Seeking a certified regulatory program under CEQA for certain activities.
- RW-XXXI-A-04 Encourage the Department, NOAA Fisheries, USFWS, and USACE to coordinate and develop programmatic incidental take authorizations (e.g., 404 permits, section 7 consultations, 4(d) rules) for activities that will contribute to the recovery of coho salmon, including but not limited to the Department's Fisheries Restoration Grants Program.
- RW-XXXI-A-05 Support the Department in seeking new funding to pay for environmental review and permitting of voluntary projects that will contribute to the recovery of coho salmon.
- RW-XXXI-A-06 Develop and issue management memoranda of understanding under §2081(a) to participants as an incentive for voluntary activities that will contribute to the recovery of coho salmon.
- RW-XXXI-A-07 Consider whether the Task Force on Removing Barriers to Restoration (Resources Agency) recommendation suggesting counties adopt ordinances to exempt restoration and/or enhancement projects from indemnification requirements is appropriate and/or desirable in the context of coho salmon recovery.
- RW-XXXI-A-09 Instream restoration (structures, crossings, road decommissioning, etc.) should be allowed to begin the same time as THP activities (that require similar 1600 agreements). This would allow for an extra month in the beginning of the restoration season.
- RW-XXXI-A-10 Amend grading ordinances to exempt restoration and/or enhancement activities approved by the Department fishery grants program within certain categories (specified by the county or others).
- RW-XXXI-A-11 Support adequate staffing and funding for the Department restoration program to complete contracts in a timely manner (including review, site visits, etc.).

- RW-XXXI-A-12 Seek a small restoration projects categorical exemption.
- RW-XXXI-A-13 Create a new CEQA Categorical Exemption for barrier removals that meet the Department and NOAA Fisheries natural stream simulation criteria for passage.
- RW-XXXI-B-02 Encourage State, Federal, and local governmental agencies to place greater emphasis on coordinating:
- The permitting process (including environmental review) while ensuring protection of coho salmon and their habitat; and
 - Implementation of programs affecting coho salmon.
- RW-XXXI-B-06 Where mitigation for otherwise lawful activities would mitigate for authorized take of coho salmon and contribute to recovery of coho salmon, encourage the Department to streamline the incidental take permitting process by developing guidelines for allowable take and for the issuance of incidental take permits under §2081(b).
- RW-XXXI-B-07 To minimize and reduce the effects of water diversions, direct the Department to work with the SWRCB, present supportive evidence, and actively participate in making recommendations needed to implement provisions of the FGC. This may include:
- Identifying and implementing actions to improve coordination between the agencies and others to address season of diversion, off-stream reservoirs, bypass flows protective of coho salmon and their habitat including spawning gravel and natural hydrograph, and avoidance of adverse impacts caused by water diversion;
 - Funding of assessment and geographic information system (GIS) mapping of water diversions and determination and monitoring of FGC §1600 program compliance related to water diversions; and
 - Evaluating requests for on-stream dams on coho salmon streams above migratory reaches for the effects on the natural hydrograph and the effects on the supply of spawning gravel for recruitment downstream.

7.19 WATERSHED PLANNING

- RW-XXXII-B-02 Provide adequate funding to the agencies to coordinate and support preparation of comprehensive watershed assessments and restoration plans that:
- Include a professional fisheries scientist;
 - Assess streamflow, water diversions, water quality, sediment sources, fish barriers, riparian corridors, instream habitat, estuarine habitat, and land use, as necessary; and
 - Identify, prioritize, and implement site-specific restoration projects to benefit coho salmon.
- RW-XXXII-B-03 Review existing, approved watershed management or restoration plans within the range of coho salmon and implement actions consistent with priority recommendations of the coho salmon recovery strategy.

7.20 ENFORCEMENT OF EXISTING LAWS

- RW-XXX-C-01 Request that the Coastal Commission require landowners to fund restoration of impacted coho salmon habitat resulting from project construction without proper review and approvals.
- RW-XXXIII-A-01 Support enforcement of existing laws, codes, regulations, and ordinances that address the protection of coho salmon and their habitat. Habitat includes but is not limited to water (quality and quantity), pools, riffles, instream LWD, riparian vegetation and estuaries. Existing laws, codes, regulations, and ordinances include, but are not limited to FGC §§1600, 5650, 5900 through 6100 (with an emphasis on 5901, 5937, and 6100), PRC §§10000-10005, CESA, and the ESA. The term “enforcement” includes, but is not limited to, education, issuing warnings, issuing citations, developing cases for referral to district attorneys offices and/or the Office of the Attorney General.
- RW-XXXIII-A-02 Provide adequate budgetary funding and positions for agencies with enforcement authority to enforce laws and codes relevant to coho salmon protection.
- RW-XXXIII-A-03 Review diversions and use of water in priority coho salmon streams to determine which permits and/or licenses need modification for the protection of coho salmon. Where necessary, formally request that the terms of water rights permits/licenses be modified for protection of coho salmon. This will require field studies to evaluate impacts and develop supportive evidence and formal hearings to consider proposed changes. This program must be adequately funded to be implemented.
- RW-XXXIII-A-04 Agencies with the primary authority for fish and water should lead enforcement efforts and coordinate with all local, State and Federal agencies with regulatory authority affecting coho salmon.
- RW-XXXIII-A-05 Request that enforcement to prevent unauthorized diversion and use of water and water permit processing a high priority. Enforcement of existing codes including Water Code §§1052 Trespass and 1831 *et seq.*, Cease and Desist. Adequate funding should be provided for enforcement and permit processing staff.
- RW-XXXIII-A-06 Support continued funding for the California District Attorneys’ Association’s Environmental Circuit Prosecutors program and/or Environmental Project for applicable district attorney offices in the range of coho salmon.
- RW-XXXIII-A-07 Dedicate fines from violations affecting coho salmon or coho salmon habitat to coho salmon recovery and restoration activities consistent with the Department’s Coho Salmon Recovery Strategy, including but not limited to education and outreach. Emphasis should be placed on keeping fine money in watersheds where the violation occurred to address existing coho salmon restoration plans and projects. This recommendation applies to fines that are not otherwise mandated by law to be directed to other purposes.
- RW-XXXIII-A-08 Examine penalty schedules and, if necessary, explore ways to adjust penalty schedules to reflect the impact of violations to coho salmon, taking into account other penalties that may be enforced in association with the same activity.

- RW-XXXIII-A-10 Develop an outreach/information and education program that targets agency personnel, judges, district attorneys, the Attorney General's Office, municipalities, and other affected or interested parties concerning the status of coho salmon and the value and importance of coho salmon resources and coho salmon recovery. Provide educational materials, outreach and training for issues such as sport fishing (inadvertent incidental take), poaching (directed take) and habitat destruction (LWD removal, riparian destruction, illegal stream crossings, pollution, illegal water withdrawal, etc.).
- RW-XXXIII-A-11 Discourage illegal dumping, poaching, and other illegal activities by promoting "neighborhood watch" programs for streams and/or watersheds.
- RW-XXXIII-A-14 Support funding for increased enforcement of existing laws against dumping of toxic substances.
- RW-XXXIII-A-18 Require adequate review, as staffing allows, of all applications for proposed projects that may impact coho salmon
- RW-XXXIII-A-27 Establish environmental task forces made up of State, local, and Federal enforcement agencies that operate in the range of coho salmon.
- RW-XXXIII-A-28 Increase funding for the Department's CalTIP program.
- RW-XXXIII-A-29 Seek programmatic incidental take authority with respect to screen design and installation that conforms to Department/NOAA Fisheries screening criteria.
- RW-EN-24 Encourage Federal, State, and county agencies and private landowners to protect instream LWD to the greatest extent practicable without endangering public safety, life or property.

7.21 IMPLEMENTATION

- RW-XXXIV-A-01 Provide funding and incentives for projects that exceed requirements of existing law and/or expedite timelines required by law. All commitments of State and local agencies are subject to availability of funding. Funding and incentives provided by State fishery restoration accounts should be prioritized as follows:
- Projects that exceed requirements of existing law and/or expedite timelines required by current law;
 - Projects that were installed in accordance with laws and standards in effect at the time the work was done;
 - Projects that contain elements of a. and b. above; and
 - Projects that do not meet elements of a. and b. above, but which are not a part of new development or under enforcement actions.
- Projects that are mitigation for new development or activities under enforcement actions are not fundable.
- RW-XXXIV-A-02 Support continued and increased funding for the California Conservation Corps to implement coho salmon restoration projects throughout the entire range of California coho salmon.

7.22 INSTREAM GRAVEL EXTRACTION

RW-XXXV-A-01 Within known or historic coho salmon habitat, permits for instream gravel extraction should require:

- a. A total yearly extraction volume proportionally based on the long term mean average recruitment of gravel into the mining reach;
- b. An extraction strategy that will promote species recovery by retaining sufficient gravel to preserve and restore the alluvial structure necessary for forming and maintaining critical physical habitat in, up- and downstream of the mined reach; and
- c. A monitoring plan capable of demonstrating that the extraction strategy is successful.

These conditions may not be necessary if it can be determined that the extraction volume and method protect coho salmon and their habitat (including, but not limited to, protection of habitat attributes such as water quality, riparian vegetation, and the geomorphic features that control local hydraulics and safeguard the physical processes that create and maintain habitat).

7.23 ASSESSMENT, MONITORING, AND RESEARCH

RW-XXIX-B-03 Support research necessary to better understand crucial uncertainties regarding coho salmon ecology. Four important issues area:

- a. Genetic relatedness and health;
- b. Potential of local adaptive differences to environmental factors;
- c. Identifying specific refugia, including non-natal rearing areas; and
- d. Stream nutrient enrichment and cycling needs for coho salmon.

RW-XXIX-C-01 Evaluate and prioritize coho salmon issues and questions in need of research.

RW-XXIX-C-01a Develop and maintain a coho salmon species and recovery data/information system for compiling, analyzing, and distributing information on the status and trend of coho salmon and the status of coho salmon recovery.

RW-XXIX-D-04 The Department, NOAA-Fisheries, CDF, California Geological Survey (CGS), in cooperation with the landowners and representatives of the CRT, should develop a comprehensive system to gather, evaluate and manage monitoring information associated with the elements set forth in the Assessment, Monitoring, and Research section of the Recovery Strategy.

RW-XXIX-E-01 Coho salmon restoration activities should consistently use field tested implementation, effectiveness, and validation monitoring protocols.

RW-XXIX-F-01 Support immediately needed assessments necessary to better understand population and life-history uncertainties, such as:

- a. Relative abundance;
- b. Spawning sites/success;
- c. Estuary use;

- d. Barriers to juveniles;
 - e. Over-wintering growth and survival; and
 - f. Ocean condition effects on coho salmon populations.
- RW-XXIX-G-01 Coho salmon recovery shall be guided by the strategic, long-term monitoring program being developed as a California coastal salmonid assessment and monitoring program.
- RW-XXIX-G-02 Assessment and prioritization of actions within a watershed should precede implementation of comprehensive restoration plans in a subbasin or basin to ascertain the most crucial factors for coho salmon and habitat. This should not preclude prompt implementation of specific, obvious beneficial projects or measures already recommended in the Recovery Strategy.
- RW-XXIX-H-01 Support the expenditure of restoration dollars, including Fisheries Grant Restoration funding, to research, monitor, and evaluate the effectiveness of restoration. This may require amending the PRC to allow research as an eligible project type.
- RW-XXX-C-02 The Recovery Team recognizes that the Department has authority to collect data on navigable waterways. In addition, the CRT recommends the Department develop a data collection and sharing policy that:
- a. Requires permission of private landowners for access across private lands to collect data where such access is desired;
 - b. Disclosure of data collected from private lands in a form or by a means that protects landowner privacy (i.e., disclosure of data at stream-reach level or other appropriate scale that protects landowner privacy, but also shows the relationship to the nearest tributary confluences);
 - c. Disclosed data must be quality assured and quality controlled;
 - d. Disclosure should include metadata files indicating who collected the data, and how and for what purposes the data were collected;
 - e. If requested, disclosed data should be in electronic form if it already exists in that form.
 - f. Data requests should be responded to in a timely manner, recognizing limitations of staff and budgets can affect processing requests.

7.24 TIMBER MANAGEMENT

- ALT-C-01 CRT recommends government commitment of adequate financial, material, and personnel support for the life of the Recovery Strategy for on-the-ground recovery actions, identified in the Recovery Strategy. Possible funding mechanisms may include:
- a. Legislation specifically identifying funding for recovery;
 - b. Cost-share programs with private landowners, stakeholder groups and local governments; and
 - c. Endowment and/or grant programs cooperatively with private sources.

- ALT-C-02 The Department should provide technical expertise to support appropriate cooperatively undertaken recovery actions, which may include:
- a. Technical advisors to assist in the development of restoration proposals;
 - b. Technical expertise to assist in the implementation of recovery activities on-the-ground; and
 - c. Technical expertise to assist in training and education on coho restoration projects.
- ALT-C-03 The Department should develop and implement a program to design and implement a coho salmon recovery plan for individual CALWATER Planning Watersheds. The program should promote and enable cooperative working relationships between agencies, landowners and residents. This program should include:
- a. Federal and State funding to assist landowners in performing watershed analysis in a manner usable by the Department;
 - b. A systematic evaluation at the watershed level to identify key limiting factors for the recovery of coho salmon;
 - c. Identification of site-specific sources and locations of the key limiting factors;
 - d. Identification of restoration projects for watershed transportation systems, fish passage, slope stabilization measures, erosion control measures and drainage structures;
 - e. Identification of beneficial management practices to protect existing values; and
 - f. Use of these plans and the data that support them as the principle reference document, which would save landowners and/or project proponents additional costs associated with repetitive analysis and paperwork for each project.
- ALT-C-04 The Department should develop an information repository system for individual Planning Watersheds that utilizes and builds upon existing information, adding new information as it becomes available, while ensuring adequate confidentiality for information specifically pertaining to an individual's private property.
- ALT-C-05 The Department should promote and support programmatic approaches to address key limiting factors in each CALWATER Planning Watershed with a watershed plan. Include these components:
- a. Where appropriate and where costs to landowners are offset by monetary assistance, technical assistance or regulatory incentives, encourage landowners to develop and implement Road Management Plans that contribute to the restoration of coho salmon habitat;
 - b. Where appropriate and where the costs to landowners are offset by incentives, encourage the use of a licensed engineer to assist in the design and construction of watercourse crossings;
 - c. Continuing education and training (classroom and field) to ensure watercourse crossings are appropriately designed, constructed and maintained;

- d. Cooperative habitat restoration projects that extend across ownerships to address habitat restoration efforts in a coordinated and cost effective manner; and
 - e. State funding to assist landowners to implement coordinated watershed riparian vegetation improvement programs that:
 - i. Identify areas within the riparian zone where planting of riparian vegetation, including conifers, to improve coho salmon habitat is appropriate and
 - ii. Promote vegetation modification (e.g., thinning, removal of undesired competitive vegetation) to accelerate riparian vegetation recovery and enhancement for coho salmon habitat.
- ALT-C-06 The Department should set up a long term monitoring system that measures the implementation and effectiveness of FPR in effect at the time of the monitoring. The monitoring shall measure the effectiveness of the rules for maintenance and recovery of coho salmon habitat.
- ALT-C-07 Encourage CDF and California Geological Survey in concert with the Board of Forestry (through the Monitoring Study Group) to develop a monitoring program to evaluate whether mitigation measures implemented by Registered Professional Foresters as part of THPs are effectively reducing the risk of mass soil movement associated with harvesting operations, including road and landing construction. Any monitoring system should be designed to compare harvested areas to non-harvested areas so it can be determined whether harvesting, road and landing construction activities increase the likelihood of mass soil movement. The THP work completion report and the Monitoring Study Group's Hillslope Monitoring Program, as well as periodic air photo flights and photo interpretation, could provide the basis for monitoring and evaluation.
- ALT-C-08 CDF document voluntary efforts taken by forest landowners beneficial to coho salmon that:
- a. Provide mitigation measures that exceed FPRs requirements; and/or
 - b. Are identified in specific CALWATER Watershed Recovery Plans.
- ALT-C-09 The Department should develop a system to evaluate implementation and effectiveness of voluntary efforts to recover coho salmon populations.
- ALT-C-10 The Department should develop, with appropriate peer review, a long-term consolidation and analysis of resource assessments and monitoring data.
- ALT-C-11 The Department should collaborate with CDF and appropriate industry groups to provide watercourse training and roads assessment watershed academy.
- ALT-C-12 Acquire conservation easements or land in fee title from willing landowners to protect coho salmon habitat.
- ALT-C-13 The Department should seek funding for staff to improve effectiveness of the Department timberland conservation program.
- ALT-C-14 Continue participation in full review of THPs and participation and other timberland conservation activities associated with managing timberlands.

- ALT-C-15 In watersheds with coho salmon, the Department will prepare a “coho salmon biological assessment” when acting as a Lead or Responsible agency under the California Environmental Quality Act (CEQA) for timberland conservation activities, including but not limited to the review of timber harvesting plans. A “coho salmon biological assessment” is an assessment by the Department of project effects, if any, on coho salmon. The biological assessment will include conclusions by the Department regarding potential for the project to “jeopardize” the long-term survival of or “take” coho salmon. It will also include the Department’s assessment of the significance of project impacts for purposes of “mandatory findings of significance” under 14 CCR §15065 (a), (b), and (c).
- ALT-C-16 In conjunction with CDF, qualified landowners representatives and experts, and qualified independent scientists with appropriate expertise, and consistent with the availability of staff, the Department will monitor for five years (or more if necessary to develop an adequate sampling regime) the implementation of the FPR in effect at the time to determine whether these rules are consistent with the long-term survival of coho salmon.
- ALT-C-17 If results of monitoring, based on substantial evidence as the term is defined by 14 CCR §15384, conclude that the implementation of the FPR s are not providing adequate protection for the long-term survival of coho salmon, the Department in cooperation with CDF and interested stakeholders will develop recommendations to ensure adequate protection for the long-term survival of coho salmon.
- ALT-B-19 Recommend that a “proof of concept” pilot program be developed and implemented to test a mathematical or scientific method of cumulative effects analysis as was suggested in the 2001 report, “A Scientific Basis for the Prediction of Cumulative Watershed Effects” (otherwise known as the “Dunne Report”), by the U.C. Committee on Cumulative Watershed Effects. The pilot program would be developed and implemented by a panel of experts such as those at U.C. in cooperation with the Department, CDF, and SWRCB.
- ALT-B-20 Recommend that CDF and the Board of Forestry work with the Department and other interested agencies and stakeholders to establish a procedure for THPs to document and evaluate the implementation and effectiveness of coho-related mitigation measures prior to the official completion inspection by CDF and other agencies.